## IN THE CLAIMS

Please cancel claims 12 and 19 without prejudice or disclaimer, amend claims 1 thru 7, 9 thru 11, 13, 14, 16 thru 18, 20, 21 and 23 thru 25, and add claim 26, as follows:

1. (Currently Amended) A driving circuit of a DC microwave oven having an inverting unit for converting a DC voltage of a DC power supply into an AC voltage by driving pulses, a high voltage transformer for transforming the AC voltage applied by the driving of the ~~inverter~~ inverting unit and supplying the transformed AC voltage to a magnetron, and a pulse driving unit for generating the driving pulses, said driving circuit comprising:

an excessive current detecting unit for detecting a current supplied from the DC power supply to the inverting unit, and for outputting an excessive current detecting signal to the pulse driving unit to cut off the generation of the driving pulses of the pulse driving unit [[if]] when the detected current corresponds to an excessive current.

2. (Currently Amended) The driving circuit as claimed in claim 1, wherein the excessive current detecting unit includes:

an excessive current detecting part for detecting a current supplied to the inverting unit; and

a comparison part for comparing a detecting signal outputted from the excessive current detecting part with a predetermined reference signal, and for outputting a

comparison result signal, wherein the comparison result signal comprises the excessive current detecting signal when the detected current corresponds to an excessive current, and wherein the pulse driving unit stops the generation of the driving pulses [[if]] when the comparison result signal of the ~~comparator corresponds to~~ comparison part comprises the excessive current detecting signal.

3. (Currently Amended) The driving circuit as claimed in claim 2, further comprising:

an amplification part for amplifying the detecting signal outputted from the excessive current detecting part and applying the amplified detecting signal to the ~~comparator~~ comparison part.

4. (Currently Amended) The driving circuit as claimed in claim 2, wherein the excessive current detecting part includes plural bipolar transistors driven [[in]] with the same periods as the inverting unit with an input of the driving pulses.

5. (Currently Amended) The driving circuit as claimed in claim 1, further comprising:

an excessive current maintaining unit for continuously maintaining the excessive current detecting signal [[if]] when the excessive current detecting signal ~~occurs from~~ is outputted the excessive current detecting ~~part~~ unit.

6. (Currently Amended) The driving circuit as claimed in claim 5, wherein the excessive current maintaining unit includes:

a feedback transistor turned on [[with]] by an input of a feedback control signal outputted from the pulse driving unit; and

a diode connected between the ~~comparator and the~~ feedback transistor [[to]] and the comparison part for continuously ~~output~~ outputting to the ~~comparator the~~ comparison part a feedback signal higher than a reference signal in correspondence with [[the]] turn-on of the feedback transistor, the pulse driving unit outputting the feedback control signal in response to outputting of the comparison result signal comprising the excessive current detecting signal [[of]] by the ~~comparator~~ comparison part.

7. (Currently Amended) A driving circuit of a DC microwave oven having an inverting unit for converting a DC voltage of a DC power supply into an AC voltage by driving pulses, a high voltage transformer for transforming the AC voltage applied by the driving of the inverting unit and supplying the transformed AC voltage to a magnetron, and a pulse driving unit for generating the driving pulses, said driving circuit comprising:

a switching unit mounted to turn on and off [[the]] voltage supply to the pulse driving unit according to the opening and closing operations of a cooking chamber door, the switching unit comprising:

a door sensing switch turned on and off according to the opening and closing

operations, respectively, of the cooking chamber door;

a primary interlock switch connected in [[the]] a voltage supply path to [[the]] a voltage input terminal of the pulse driving unit so as to be turned on and off according to the opening and closing operations, respectively, of the cooking chamber door; and

a secondary interlock switch connected in series with the primary interlock switch in the voltage supply path to the voltage input terminal of the pulse driving unit so as to be turned on and off according to the switching states of the door sensing switch.

8. (Original) The driving circuit as claimed in claim 7, further comprising: a voltage regulator for regulating the DC voltage of the DC power supply and supplying the regulated DC voltage to the voltage input terminal of the pulse driving unit through the primary interlock switch and the secondary interlock switch.

9. (Currently Amended) A driving circuit of a DC microwave oven having an inverting unit for converting a DC voltage of a DC power supply into an AC voltage by driving pulses, a high voltage transformer for transforming the AC voltage applied by the driving of the inverting unit and supplying the transformed AC voltage to a magnetron, and a pulse driving unit for generating the driving pulses, said driving circuit comprising:

a switching unit mounted to turn on and off the voltage supply to the pulse driving unit according to [[the]] opening and closing operations of a cooking chamber door; [[and]]

a switch monitor unit for cutting off [[the]] supply of the DC voltage to the high voltage transformer when the cooking chamber door is in the open state; and

an excessive current detecting/maintaining unit for detecting a current provided by the DC power supply through the switch monitor unit, and for outputting an excessive current detecting signal to the pulse driving unit to cut off generation of the driving pulses by the pulse driving unit when the detected current comprises an excessive current.

10. (Currently Amended) The driving circuit as claimed in claim 9, wherein the switch monitor unit includes:

a plurality of monitor switches ~~mounted in a position capable of~~ connected to the primary coil of the high voltage transformer for selectively short-circuiting the primary coil of the high voltage transformer, and switched on and off according to the opening and closing operations of the cooking chamber door; and

a fuse mounted in a voltage supply path ~~through~~ between the plural monitor switches and the DC power supply.

11. (Currently Amended) The driving circuit as claimed in claim 10, wherein [[one]] first ends of the plurality of monitor switches are connected to the DC power supply through the fuse, and ~~the other~~ second ends of the [[same]] plurality of monitor switches are connected between the inverting unit and the primary coil of the high voltage transformer.

Claim 12. (Canceled)

13. (Currently Amended) The driving circuit as claimed in claim [[12]] 9, wherein the switch monitor unit includes a three-terminal monitor switch for selecting ~~either~~ one of a first loop connecting the DC power supply and [[the]] a fuse~~, or of~~ and a second loop connected to the excessive current detecting/maintaining unit by [[the]] switching operations of the three terminal monitor switch.

14. (Currently Amended) The driving circuit as claimed in claim [[12]] 9, wherein the excessive current detecting/maintaining unit includes:

an excessive current detecting part for detecting a current supplied to the inverting unit;

a comparison part for comparing [[the]] a detecting signal outputted from the excessive current detecting part with a predetermined reference signal, and for outputting a comparison result signal; and

a feedback part for outputting to the comparison part a feedback signal exceeding the predetermined reference signal ~~in the~~ for control of the pulse driving unit.

15. (Original) The driving circuit as claimed in claim 14, further comprising:

an amplifying unit for amplifying the detecting signal outputted from the

excessive current detecting part and applying the amplified detecting signal to the comparison part.

16. (Currently Amended) A driving circuit of a DC microwave oven having an inverting unit for converting a DC voltage of a DC power supply into an AC voltage by driving pulses, a high voltage transformer for transforming the AC voltage applied by the driving of the inverting unit and supplying the transformed AC voltage to a magnetron, and a pulse driving unit for generating the driving pulses, said driving circuit comprising:

a switch monitor unit for cutting off [[the]] supply of a voltage to the high voltage transformer from the DC power supply when a cooking chamber door is in an open state; and

an excessive current detecting/maintaining unit for detecting a current provided by the DC power supply through the switch monitor unit, and for outputting an excessive current detecting signal to the pulse driving unit to cut off generation of the driving pulses by the pulse driving unit.

17. (Currently Amended) The driving circuit as claimed in claim 16, wherein the switch monitor unit includes:

a plurality of monitor switches ~~mounted in a position capable of~~ connected to the primary coil of the high voltage transformer for selectively short-circuiting the primary coil of the high voltage transformer, and switched according to [[the]] opening and

closing operations of the cooking chamber door; and

a fuse mounted in a voltage supply path connecting the plurality of monitor switches and the DC power supply.

18. (Currently Amended) The driving circuit as claimed in claim 17, wherein ~~the one~~ first ends of the plurality of monitor switches are connected with the DC power supply through the fuse, ~~while the other~~ and second ends ~~thereof~~ of the plurality of monitor switches are connected between the inverting unit and the primary coil of the high voltage transformer.

Claim 19. (Canceled)

20. (Currently Amended) The driving circuit as claimed in claim [[19]] 16, wherein the switch monitor unit includes a three-terminal monitor switch for selecting ~~either~~ one of a first loop connecting the DC power supply and [[the]] a fuse, [[or of]] and a second loop connected to the excessive current detecting/maintaining unit by [[the]] switching operations of the three-terminal monitor switch.

21. (Currently Amended) The driving circuit as claimed in claim [[19]] 16, wherein the excessive current detecting/maintaining unit includes:

an excessive current detecting part for detecting a current supplied to the inverting

unit;

a comparison part for comparing [[the]] a detecting signal outputted from the excessive current detecting part with a predetermined reference signal, and for outputting a comparison result signal; and

a feedback part for outputting to the comparison part feedback signal exceeding the predetermined reference signal ~~in the~~ for control of the pulse driving unit.

22. (Original) The driving circuit as claimed in claim 21, further comprising:

an amplifying unit for amplifying the detecting signal outputted from the excessive current detecting part and applying the amplified detecting signal to the comparison part.

23. (Currently Amended) A driving method of a DC microwave oven having an inverting unit driven by driving pulses for converting a DC voltage of a DC power supply into an AC voltage ~~by driving pulses~~, a high voltage transformer for transforming the AC voltage applied by the driving of the inverting unit and supplying the transformed AC voltage to a magnetron, a pulse driving unit for generating the driving pulses for driving the inverting unit, and a switching unit for switching on and off [[the]] voltage supply to the pulse driving unit from the DC power voltage, said method comprising steps of:

a) driving the pulse driving unit by controlling the switching unit [[if]] when a cooking chamber door is closed and a cooking start selection signal is inputted;

b) detecting whether an excessive current is supplied to the high voltage transformer through the inverting unit driven by the driving pulses generated by the pulse driving unit; and

c) cutting off the AC voltage supply to the magnetron by stopping the driving of the pulse driving unit [[if]] when the excessive current is detected.

24. (Currently Amended) The driving method as claimed in claim 23, further comprising [[a]] the step of:

d) forming a voltage supply path in parallel with the high voltage transformer [[if]] when the cooking chamber door is opened in [[the]] a state [[that]] wherein the excessive current is not detected, and opening the voltage supply to the inverting unit from the DC power supply [[if]] when an excessive current flows in the voltage supply path formed in parallel with the high voltage transformer.

25. (Currently Amended) The driving method as claimed in claim 24, ~~wherein~~ further comprising the step of providing a three-terminal monitor switch ~~is provided, the~~ having a fixed terminal ~~thereof is~~ connected in [[the]] a voltage supply path connecting the inverting unit and the high voltage transformer, a first contact ~~thereof~~ selectively switched to the fixed terminal [[is]] so as to be connected to the DC power supply through [[the]] a fuse, and a second contact ~~thereof~~ selectively switched to the fixed terminal [[is]] so as to be connected to a unit for carrying out the detection of the

excessive current when the cooking chamber door is closed, the fixed terminal being switched [[on]] to the second contact in [[the]] step b), and the fixed terminal being switched [[on]] to the first contact in [[the]] step d).

26. (New) The driving method as claimed in claim 23, said method further comprising the step of providing a three-terminal monitor switch having a fixed terminal connected in a voltage supply path connecting the inverting unit and the high voltage transformer, a first contact selectively switched to the fixed terminal so as to be connected to the DC power supply through a fuse, and a second contact selectively switched to the fixed terminal so as to be connected to a unit for carrying out the detection of the excessive current when the cooking chamber door is closed, the fixed terminal being switched to the second contact in step b).